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FOR:

SYSTEM AND METHOD FOR A FEE ADDRESS SYSTEM

INVENTORS:

PAUL MOSKOWITZ  
PHILIP S. YU  
STEPHEN J. BOIES  
SAM DINKIN

# SYSTEM AND METHOD FOR A FEE ADDRESS SYSTEM

## FIELD OF INVENTION

This invention relates to the field of address systems and provides a method for limiting access to an  
5 address by charging a fee to send mail to that address.

## BACKGROUND OF THE INVENTION

Addresses are critical to personal and business communications. Generally, addresses are the numbers and letters which define where an addressee lives, works and  
10 can be contacted, either physically or electronically. In today's environment, addresses include, for example, street addresses, telephone, fax and pager numbers, e-mail and e-phone addresses. These addresses provide highly personal information about an addressee.

15 There is a need in the art to control the extent and number of unsolicited messages flowing to these addresses. In the art, several methods have been described. Many of these are content based filters, which examine the content of the message in order to determine  
20 what action to take. Some systems prioritize mail based upon stored rules, either set by the computer program or designed and input by the user.

## SUMMARY OF THE INVENTION

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The prior techniques, however, do not discourage the sender from sending useless messages, but rather put the burden on the recipient to filter messages. Some  
5 mechanism is needed to discourage the sender from bombarding recipients with excessive or very large pieces of mail. The present system relates to charging a fee for a piece of mail capable of being processed through a central processing system. Charging a fee to send a piece  
10 of mail will dramatically cut down on the amount of junk mail received each day.

The present system relates to a system and method for providing a fee address capable of monitoring information sent and asynchronously received to a fee  
15 address, determining a fee for the information or mail wherein the fee is based on a preferences record defined by a mail recipient, collecting the fee, and forwarding the information to a private address. The fees may be fixed, or may vary depending upon the size, content or urgency of  
20 the mail, or the fee may be conditional on the recipient's determination of an appropriate fee or the recipient's response. The fees can profit the recipient or, alternatively, a third party, such as for example, a

company, firm individual or charity. The fees can be settled by any consideration.

A programmed computer for providing a fee address system comprising a memory having at least one region for storing computer executable program code and a processor for executing the program stored in the memory is also described. Further, computer executable software code stored on a computer readable media is provided.

#### **BRIEF DESCRIPTION OF THE FIGURES**

Figures 1 and 2 are hardware diagrams of representative systems.

Figure 3 is a flowchart illustrating an embodiment of the system.

Figure 4 is a flowchart illustrating the set up procedure.

Figure 5 is a hardware diagram of a representative system.

Figure 6 is a representative database of the system.

#### **DETAILED DESCRIPTION OF THE INVENTION**

The system described is directed to a technique for limiting access to an address through the charging of

fees for mail. The address can be associated with any communication means capable of being processed through a central processing system. Fees can be charged based upon any parameter, including for example, by urgency, size, frequency, address or person. The fee address system comprises associating a fee with a particular piece of mail and a central processing system. The fee may be fixed, variable or conditional and may be settled by the sender with some form of consideration. The preferred settlement method is electronic check.

The central processing system of the present system involves receiving, storing and delivering messages associated with an address, and preferably comprises a computer server or computer servers, preferably connected through a network e.g. the Internet. A system and method for receiving, storing and delivering messages involves receiving an incoming signal, such as an email signal or a call and detecting public information (e.g. address) associated with the incoming signal or call, the address signal being associated with a recipient. The central processing system comprises a means for receiving an incoming signal or call, detecting an address signal on the incoming signal or call, determining the fee to be charged

to that incoming message or call and determining whether  
payment has been made, or payment can be made upon fee  
determination, based upon some consideration, such as, for  
example, electronic check, e-money or credit card. After  
5 payment is completed, the central processing system then  
correlates the address provided with a private address and  
forwards the paid-for message to this private address.

Preferably, the central processing system can receive one  
or more of facsimile, data or telephone addresses and data  
10 or email addresses.

In order to maintain the privacy of the user's  
personal account, the mail is initially sent to a public  
box. The fee address preferably uses symmetric key or  
public key cryptography such as, for example, RSA  
15 encryption to protect the private mailbox address. A 4096  
bit encryption system is preferred. PGP technology or  
other industry standard methods may be preferably used to  
implement the RSA encryption. Encryption prevents others  
from tampering with the mail while it is in transit. An  
20 anonymous remailer system may be used to provide additional  
security for maintaining the privacy of the user's private  
mailbox. Methods are also available to verify an

authenticated sender. These may be used to further secure privacy.

The present system is applicable to any type of address amenable to funneling through a central processing system or distribution system. "Address" as the term is used herein is defined as any set of numbers, letters, images, symbols or signals that direct a message or mail to a recipient. Examples of addresses include a mailing address, a telephone number, a facsimile number, a pager number, an electronic mail (i.e., email) address, video mail and electronic telephone (i.e., e-phone) address. Identification pin numbers are also a form of address. One skilled in the art will recognize many other forms of addresses amenable to use in the present system. "Mail" or "information" as those terms are used herein refers to the subject matter attached to and sent to a particular address.

"Currency" or "consideration" as these terms are used herein is any form of value that can be exchanged so that messages or mail can be successfully sent to a recipient. Common examples of value are money, checks and debit cards. Credit cards are also a form of value in that a charge can be assessed against the sender to pay for

sending a message. Electronic money can also be used.  
Several versions of electronic money are available or under  
development today. An overview of major versions of  
electronic money is given in the cover story and related  
5 articles in the June 1996 issue of the Byte magazine. Many  
such systems are available for use in the present system.  
One such example of an electronic monetary system is  
described in detail in European patent application EP 542  
298 and the references contained therein.

10 Mail may be "prepaid" if it is associated with a  
stamp of sufficient value, e-money, or contains information  
such as a credit or debit card account number, which can be  
charged for the mail. If the mail is not prepaid, then the  
mail is held or returned to sender. If the mail is held in  
15 the central processing system, a message may be sent to the  
sender informing him or her of the unpaid fee associated  
with the mail. The sender can release the mail by  
providing the fee or can optionally request return of the  
mail. If the held mail is not paid for within a certain  
20 time period, it may be returned to the sender or simply  
discarded. Similarly, if the mail is not held but rather  
directly returned to the sender for lack of fee payment, a  
message may optionally be sent to the sender indicating the



nature of the unpaid fee and the need to associate payment with the mail before transmission of the mail can be completed.

The fees may be fixed, varied or conditional.

- 5 The recipient may charge any fee he or she deems appropriate. Any value may be attached to a piece a mail, depending upon the parameters defined by the recipient of the mail. Fees may, for example, impose an indirect limit to the number of times an address can be accessed by
- 10 associating a sender with an escalating fee schedule. Alternatively, fees may be based upon the size or weight of the mail, or on the address or person sending the mail. If the fee is based upon the size or weight of the mail, this parameter may be measured, for example, by word count or in
- 15 bits. Fees may be based upon the urgency of the mail and just how quickly the sender would like to have his or her message read. Alternatively, fees may be fixed at a particular price, regardless of the type, size or sender of the mail. Fees may also be waived for certain senders.
- 20 When the fee is based upon a usage number, each time a piece of mail is received in the central processing system, the system will, for example, add one to the total usage number, thereby updating the usages for the sender and

increasing the fee for the next piece of mail to be received from that sender.

Alternatively, the fee may be based upon time; i.e. an address may only be accessed for a given fee, be it  
5 fixed or variable for X number of days, weeks or months. In this embodiment, the central system will charge a given fee for a set time period which may be started for example by the sender's first usage of the address or by a period of time set by the recipient.

10 Yet another type of fee may be a conditional fee. For example, a fee based upon the content of the mail or the urgency with which the recipient is requested to read the mail may have conditional fees associated with the mail. In this embodiment, the recipient may receive a mail  
15 and either before or after the recipient has opened the mail, the recipient determines the appropriate price for the mail. Any further analysis of the mail and/or response to the mail is dependent upon the receipt of payment of the assessed fee. In this embodiment, it may be preferred to  
20 substitute the mail recipient for the preferences record. In other words, the mail is forwarded directly to the mail recipient for determination of the appropriate fee. The

fee is charged and once payment is made the mail recipient analyzes the mail and may optionally respond to it.

The fee charging parameters are defined by the mail recipient and are stored in a preferences record.

5 This record is referenced each time a piece of mail is received and a fee determination is made. The central processing system reads the preferences record to determine whether the fee is flat, variable or conditional. If the fee is flat for some senders, then the central processing  
10 system identifies the sender of the mail, to determine if the rate is flat for this particular sender. If the fee is flat for all mail or for the particular sender, the central processing system refers to the preferences record to determine the amount to charge. If the fee is variable  
15 depending upon size, the central processing system determines the size of the mail. Based upon this determination, the central processing system refers to the preferences record to determine the cost of the mail. If the sender is on the list of addresses for whom the fee is  
20 waived, as recorded in the preferences record, then the central processing system recognizes this mail as already paid-for and directly forwards it to the recipient's private mailbox. If the mail has an "urgent" notice or is

a "priority" mailing, the preferences record is queried as to whether an additional charge is associated with such mail. The preferences record can be accessed by the fee address owner and the preferences may be changed or updated  
5 as desired.

Once the mail recipient receives a paid-for piece of mail, the system provides a mechanism to refund the fee at the mail recipient's option. It may be the case that a particular piece of mail was charged a fee as defined by  
10 the preferences record, but after consideration by the recipient, he or she determines the fee was not desired, i.e. the mail came from a friend, for example. The refund feature allows the recipient to reverse the charge and give the sender a fee refund.

15 The money collected from the fees can be distributed in a number of ways. It may be desired that the recipient of the mail receive the collected fees. Alternatively, the collected fees may be donated to one or more charities. The collected fees may also be given to a  
20 firm, company or other third party. The transfer of collected fees is preferably mediated through a bank or collecting agency. The mail recipient preferably sets up an account to receive collected fees. This account

collects fees, and then forwards these fees to the party or parties identified by the mail recipient to receive the funds. Alternatively, the fee address provider may provide an account for the general collection of fees, which it  
5 then transfers to the accounts identified by the mail recipient to receive the funds.

With reference to the several views of the drawings, there are depicted several embodiments of the fee address system, described hereinbelow.

10 As shown in Figure 1, a general central processing system preferably includes a central processing unit (CPU) **240**, random access memory (RAM) **220**, read-only memory (ROM) **230** and large capacity storage device **250**.  
Optionally, a calendar and/or clock may be included to  
15 track time. CPU preferably comprises a conventional microprocessor such as an Intel Pentium Processor and is electronically coupled to each of the central controller's other elements.

The CPU executes program code stored in one or  
20 more of RAM, ROM and storage device to carry out the functions and acts described in connection with the central processing system. The CPU preferably comprises at least one high-speed digital data processor adequate to execute

program modules for determining fees to be charged,  
transacting payment and forwarding mail to private  
addresses. These modules are described, for example, in  
connection with Figures 3 and 4. The CPU interacts with  
5 RAM, ROM and storage device to execute stored program code  
according to conventional data processing techniques.

User interface devices comprise devices for  
allowing the central processing system to communicate with  
senders and recipients using fee addresses, e.g. a computer  
10 or telephone. Figure 2 illustrates this system. The user  
terminal, 22 communicates with a server, 24 which receives  
the mail associated with the fee address into a public  
mailbox, 26. Next, a toll determination is made, 28, as to  
if a fee is to be charged and if so, the cost of the mail  
15 based upon its size, address and any other parameters  
recorded in the recipient's stored preferences record, 32.  
If the toll is satisfied, the mail is forwarded to a  
private address, 34. This private address may be located  
in a separate server, 32 as illustrated in Figure 2 or may  
20 be part of the first server, 24. The paid mail is then  
forwarded to the recipient's terminal, 36. If no payment  
is received, the message/mail associated with the fee

address is moved to the discard bin, **30**. Alternatively,  
the denied mail may be returned to the user terminal, **22**.

In one embodiment of the system shown in Figure  
3, a fee address is used to send a piece of mail. The mail  
5 is received in a public mailbox, **40**. The central  
processing system then uploads the stored preferences  
record, **44**, in order to determine the appropriate fee for  
the received mail, **42**. Fee determination is primarily  
concerned with at least one of the following: the type of  
10 mail, the sender's address, the size of the mail or the  
frequency or urgency of the mail. Other similar parameters  
will be known to the skilled artisan and are included in  
the present system. The fee determination is preferably  
based upon the preferences provided by the recipient. Once  
15 the appropriate fee is determined, the fee is charged, **46**.  
If the mail is prepaid, the fee is received, **48**, and  
transferred into a general account, **52**. Prepaid mail may  
have a stamp attached to it or may contain credit card or  
debit card information. Prepaid mail may also use e-money  
20 or some other form of instantly redeemable currency. A  
general account is provided by the mail recipient or  
through the fee address provider at the time the fee  
address is set up (see Figure 4, described below). This

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general account may be a bank account or some similar account capable of receiving, maintaining and distributing funds. If the mail is not prepaid, the mail is forwarded to a discard bin, **50**. Alternatively, this rejected mail  
5 may be returned to the sender. The receipt of the fee also triggers the central processing system to forward the mail to a private mail box, **54**, where it can be accessed by the recipient. The collected fees in the general account may be transferred to a third party's account, **56**, if the  
10 recipient has designated a third party to receive the proceeds from the fee address.

Figure 4 illustrates one embodiment of a set up protocol. In this embodiment, an eventual recipient of mail wishes to obtain a fee address for his or her mail.  
15 The recipient can register the necessary information through a computer network. Preferably, this computer network is the internet. In order to register, general registration information is requested, **60**. Such information may include, for example, the registrant's name  
20 and address. Other forms of communication, such as telephone or fax numbers may also be requested in the general registration section. Next, the registrant is provided with a log-in password, **62**. This password is



provided to protect the registrant's privacy and the security of the account. Once the registrant has logged-in, the system may request the mail recipient's bank account information, 64. This account may act as the

5 general account for accepting fees from charged mail. This general account may be associated with a traditional bank or alternatively, may be associated with some other collection agency capable of collecting, maintaining and transferring funds. Alternatively, the provider of the fee

10 address may provide a general account for collected fees, in which case, the mail recipient's account information is only necessary if the mail recipient designates himself as the (or one of the) funds recipients.

In any case, the system then prompts the

15 registrant to provide the parameters for charging fees for mail, 66. For example, the registrant may indicate a flat fee of \$0.35 is to be charged for mail regardless of size or sender. A different registrant may indicate that the fee is to be based upon size and mail less than a given

20 size is to be charged X, but mail greater than or equal to this given size is to be charged 2X. X may be any amount of money or currency. Yet another registrant may indicate that all mail is to be charged \$1 if the sender wishes the

mail to be opened today, but is charged \$0.50 if the sender has a lesser priority, i.e. the mail can be read tomorrow or some time in the future. Also, a registrant may indicate a wish to waive the fee for mail from a particular sender, or in the alternative, may waive charges for all but certain addressees. These parameters may vary from sender to sender, i.e. what may be fixed for certain senders, may be variable depending upon size, for example, for a different set of senders. Different combinations of parameters may be set by certain registrants.

In any case, once the fee parameters have been registered, the registrant is prompted to indicate whether the received funds from collected fees are to be held in the general account or forwarded to one or more third party accounts. If a third party account is indicated, the registrant is prompted to provide the third party's name and account information, 68. For example, it may be necessary to identify the name of the institution where the account is located and the account number. Such institution may be a bank or some similar institution capable of receiving funds. Finally, the system provides the registrant with a fee address, 70, which is used to send mail to the registrant for a fee.

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Figure 5 illustrates the system through the use of multiple servers. The system may employ multiple servers or may conduct the various functions of the system through one central server. In Figure 5, the mail is transferred from the user's terminal, **80**, to a first server, **82**, which determines the fee or toll to be charged for that piece of mail, **84**. Once the fee is charged and received, the mail is forwarded to a second server, **90**, while the fee collected from the mail is transferred to a third server, **86**. The second server receives the mail and places it into a private mailbox, which can be accessed by the recipient, **92**. The third server receives the funds collected from the mail fee and places it in a general account, **88**. This general account may be directly accessible to the mail recipient, so that if the mail recipient is also the funds recipient, no further transfer of the funds may be necessary. Alternatively, the general account may be associated with the provider of the fee address. In this case, a transfer from the general account to the mail recipient's account may be necessary, **92**. If a charity organization has been designated as a funds recipient, the collected funds are transferred from the general account to the charity's account, **94**. Similarly,

if a company, **98**, or a firm, **96**, or other third party, **100**, have been designated funds recipients, the collected funds are transferred to the designated accounts.

The large capacity storage device **250** described in Figure 1 includes a transaction processor **260**. The transaction processor maintains, determines and accesses the preferences records, determines fees associated with particular pieces of mail, and correlates the payment of the fee with transfer of the mail to private addresses.

The transaction processor may comprise one or more separate, conventional CPU/microprocessor(s) or a portion of the operating function of the CPU.

A sample of the contents of a database for one embodiment of the present system is shown in Figure 6. The specific data and fields illustrated in this figure are for the most part self-explanatory. It is understood that the data and fields, as well as the number of databases, can be readily modified from the exemplary embodiment and may be adapted to provide variations for operating the system and method described. Furthermore, each field may contain more or less information. For example, the general account information may only be required if the provider of the fee address does not operate a suitable accounting system, or

if the recipient designates himself to receive the collected fees.

Figure 6 illustrates a sample database containing the entries of several registrants of the present system.

5 This example database contains fields corresponding to the user's name, **100**, the user's account number, **102**, the preferences record, **104**, the distribution schedule for collected fees, **106**, a general account name, **108**, and number, **110**, the name of the recipient(s) of the collected  
10 fees, **112**, and the account name and number, **114** for the collected fees. The general account information is used primarily in two situations; (1) if the provider of the fee address does not provide a general account for the collection of fees; and/or (2) if the mail recipient is  
15 also the collected fees recipient. In these two situations, general account information may be desirable. In the first instance, the general account forms the initial depository for collected fees. In the second situation, the general account is preferably the final  
20 destination of the funds. It may also be the case that the general account is both the initial depository and the final destination of the funds. When a mail recipient designates himself to collect a portion of the collected

fees, it may be desirable to provide separate account information for storing that portion of the collected fees.

The above description of various preferred embodiments has been presented for purposes of illustration and description. It is not intended to be exhaustive or limiting to the precise forms disclosed. Obvious modifications or variations are possible in light of the above teachings. The embodiments discussed were chosen and described to provide illustrations and its practical application to thereby enable one of ordinary skill in the art to utilize the various embodiments and with various modifications as are suited to the particular use contemplated. All such modifications and variations are within the system as determined by the appended claims when interpreted in accordance with the breadth to which they are fairly, legally and equitably entitled.